REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow, which are supplemental to the arguments provided in an Amendment and Reply filed on February 12, 2008.

Status of Claims:

No claims are currently being cancelled.

No claims are currently being amended.

Claims 15-20 are currently being added.

This supplemental amendment adds claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After adding the claims as set forth above, claims 1-20 are now pending in this application.

New Claims:

New claims 15-20 correspond respectively to original claims 1-6, whereby these claims are believed to patentably distinguish over the cited art of record for the reasons given below.

Page 4 of the Office Action includes a recitation from paragraph 0009 of Luick, which states that "Most modern processors employ some form of pipelining to increase the average number of operations executed per clock cycle, . . . the processor executes one instruction per cycle." This portion of Luick says noting about transmission information and nothing about a communication command, and as such, it is not considered especially pertinent to the features recited in original claims 1-6 (which correspond to new claims 15-20). In more detail, the claimed communication command as recited in claim 1 is not taught or suggested in Luick. Rather, the description in Luick is directed to an internal mechanism of a processor, whereby the present invention according to claims 15-20 is directed to a communication command which is provided from a processor to a communication device of an external apparatus, whereby such communicating with an external apparatus is not taught or suggested in Luick (which is not directed to such features).

Pages 4 and 5 of the Office Action refer to paragraph 0013 of Luick, which states that "Typically, in order to obtain a real address of data for a data reference operation (e.g., a load or store operation), a portion of the virtual address is used to access a table . . . These operations may require multiple clock cycles." This portion of Luick explains that a TLB is divided N-ways, and is indexed in part of a Virtual Address. However, the present invention according to claims 15-20 indexes an entry of a TLB not based on a Virtual Address but rather based on a sending source. Accordingly, the present invention according to claims 15-20 and the disclosure in paragraph 0013 of Luick are not pertinent to each other.

Furthermore, Luick uses a TLB inside a processor, whereby the present invention according to claims 15-20 uses a TLB of a communication device, which is different in structure from the Luick TLB.

Still further, in the TLB according to claims 15-20, a reception section selects a TLB entry, which is different from both Ang and Luick in which a processor of those references indexes a TLB and carriers out address conversion.

Put in another way, Ang operates in the following manner:

[processor + TLB] → [peripheral] → network → [peripheral] → [processor]

Address conversion → command + physical address.

In contrast, the present invention according to claims 15-20 operates as follows:

[processor] → [translation section] → network → [recap. sec. + TLB] → [processor] → command → TLB index + logical address.

Furthermore, at step 204 in Figure 2 of Ang, and as described in paragraph 0025 of Ang, a processor carries out address conversion, and a Physical address is sent to a peripheral hardware device using a command.

In contrast, in the present invention according to claims 15-20, a processor does not carry out address conversion, but rather the processor sends a command and a logical address to a Communication Device.

Next, with regard to the determination of an entry of the TLB, the present invention according to claims 15-20 and Luick are much different from each other, as described below. Luick determines an entry of a TLB based on a portion of a virtual address, whereras an entry of a TLB is determined in the present invention according to claims 15-20 in accordance with a sending source.

Also, Luick states that in order to find out a pipeline address conflict at an early stage, only a hash of some of a necessary number of bits is used for comparison. Please note that the present invention according to claims 15-20 is not directed to carrying out address conversion, but rather to improve a hit rate of a TLB by changing entries of the TLB used for address conversion.

Accordingly, the present invention according to claims 15-20 and Luick are much different from each other, whereby none of the other cited art of record makes up for these deficiencies of Luick.

Still further, with respect to new independent claim 19, which corresponds to original claim 5, the Office Action incorrectly asserts on the bottom of page 8 to page top of page 9 that it would have been obvious to modify Ang to include a processor using a communication command. . .. to deal with pipeline address conflicts. In response, Luick is directed to a pipeline within one CPU, and thus it is not at all concerned with communicating with a plurality of sending apparatuses or a plurality of other processors.

Conclusion:

Since all of the issues raised in the Office Action have been addressed in this Amendment and Reply, Applicant believes that the present application is now in condition for , and an early indication of allowance is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741.

If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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By Phillip J. Articola

FOLEY & LARDNER LLP
Customer Number: 22428
Telephone: (202) 945-6014
Facsimile: (202) 672-5399

George C. Beck
Registration No. 38,072

Phillip J. Articola
Registration No. 38,819